UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/529,675
Filing Date: April 28, 2005
Appellant(s): BOGNER ET AL.

Alfred W. Froebrich (Reg. No. 38,887)
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed July 14, 2008 appealing from the Office action mailed September 21, 2008.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is substantially correct.

The clarification with respect to the appellant's statement on page 4 of the appeal brief are as follows:

claims 22-24, 26-31, 33-36 and 45 are rejected under 35 U.S.C. 102(e) as anticipated by KAMADA et al. (U.S. Pat. App. Pub. 2002/0006040); while

claims 25, 32, 37 and 41-44 are rejected under 35 U.S.C. 103(a) as unpatentable over KAMADA et al. (U.S. Pat. App. Pub. 2002/0006040).

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

2002/0006040	**KAMEDA et al.**	**1-2002**

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

A. 35 U.S.C. 102

i- Claims 22-24, 26-31, 33-36 and 45 rejected under 35 U.S.C. 102(e) as being anticipated by KAMADA et al. (U.S. Pat. App. Pub. 2002/0006040).

KAMADA et al. discloses an illumination device having:

- **a thermally conductive carrier (as recited in claims 22 and 45)**, Figure 6, reference number 10;
- **the thermally conductive carrier having a flat mounting surface (as recited in claims 22 and 45)**, as seen in Figures 2, 6 and 31;

- **a plurality of luminous spots (as recited in claims 22 and 45)**, Figure 6, reference number 1;
- **the luminous spots being arranged on the flat mounting surface in a grid format (as recited in claims 22 and 45)**, as seen in Figures 2, 6 and 31;
- **each of the luminous spots having a plurality of light emitting diodes (as recited in claims 22 and 45)**, Figure 6, reference numbers 1a-1d;
- **each of the luminous spots having a submount (as recited in claims 22 and 45)**, Figure 6, reference number 12;
- **each of the plurality of light emitting diodes of a respective one of the luminous spots being electrically insulated from the others of the light emitting diodes of the respective one of the luminous spots (as recited in Claim 22)**, inherent, as required by the independent control required to achieve multiple colors as disclosed in paragraph 0052;
- **the submounts exhibiting good thermal conductivity (as recited in claims 22 and 45)**, as evidenced in paragraph 0123, lines 1-6;

- **the submounts being connected to the flat mounting surface such that the connections between the submounts and the carrier exhibit good thermal conductivity (as recited in claims 22 and 45)**, as evidenced in paragraph 0123, lines 1-6;
- **the area of said submounts being less than the entire area covered by the grid on the carrier (as recited in Claim 23)**, as seen in Figure 6;
- **lines for supplying power to the light emitting diodes arranged between the submounts on an insulating carrier on that area of the carrier not occupied by submounts (as recited in Claim 23)**, Figure 1, reference number 12;
- **the lines for supplying power being routed in a flexible film that is continued as a flat lead outside the carrier (as recited in Claim 24)**, paragraph 142;
- **the submounts being made of silicon (as recited in Claim 25)**;
- **the carrier being made of aluminum (as recited in Claim 26)**, paragraph 0082, line 4;
- **the carrier being made of copper (as recited in Claim 27)**, paragraph 0048, line 4;

- **a heat sink connected to the carrier (as recited in Claim 28)**, Figure 25, reference number 16;
- **the insulating carrier including spaces between the submounts filled with plastic (as recited in Claim 29)**, Figure 2, reference number 13;
- **the plurality of light emitting diodes of a respective luminous spot emitting varicolored light (as recited in Claim 30)**, paragraph 0070, lines 1-6;
- **the plurality of luminous spots having four light emitting diodes (as recited in Claim 31)**, Figure 6, reference numbers 1a-1d;
- **a plurality of reflectors (as recited in Claim 33)**, Figure 6, reference number 11;
- **each of the luminous spots being surrounded by one of the reflectors (as recited in Claim 33)**, as seen in Figure 6;
- **each reflector forming a depression filled with a transparent plastic (as recited in Claim 34)**, paragraph 0051, lines 10 and 11;
- **a respective one of the plurality of light emitting diodes of one luminous spot being connected in series with a respective light emitting diode of another one of the**

plurality of luminous spots and forming an electric circuit (as recited in Claim 35), paragraph 0146;

- **the ones of the luminous spots having the light emitting diodes associated with the electric circuit being interleaved with luminous spots associated with at least one other electric circuit (as recited in Claim 36)**, paragraph 0146.

B. 35 U.S.C. 103

i- Claims 25, 32 and 37-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over KAMADA et al. (U.S. Pat. App. Pub. 2002/0006040).

KAMADA et al. discloses an illumination device including many of the claimed limitations as detailed in previous section 3, further including:

- **each of the identically colored light emitting diodes being connected to different electric circuits (as recited in claims 37 and 44)**, paragraph 0146;
- **control devices arranged and dimensioned for providing currents fed to each of the electric circuits (as recited in Claim 38)**, as seen in Figure 36.

KAMADA et al. discloses all the limitations of the claims, except:

- the submounts being made of silicon (as recited in Claim 25);

- each of said plurality of luminous spots has two green-luminous light emitting diodes, one blue-luminous light emitting diode and one red-luminous light emitting diode (as recited in Claim 32);
- each luminous spot including a plurality of identically colored light emitting diodes (as recited in claims 37 and 44);
- the control devices, in the event of interruption of one of the electric circuits for the identically colored light emitting diodes which causes a color shift in the color produced by said luminous spot, controlling the currents in the electric circuits for the at least one other electric circuit for the identically colored light emitting diodes or for differently colored light emitting diodes of the same luminous spots to compensate for the color shift produced by the interruption (as recited in Claim 38);
- the control of the current including an increase in the current in the at least one other electric circuit for identically colored light emitting diodes (as recited in Claim 39);
- the control of the current including a decrease in the current in the at least one other electric circuit for differently colored light emitting diodes (as recited in Claim 40);

- the plurality of luminous spots forming a grid of 4x8 luminous spots (as recited in Claim 41);
- each of the plurality of luminous spots having two green-luminous light emitting diodes and two red-luminous light emitting diodes (as recited in Claim 41);
- four electric circuits being provided for the red-luminous light emitting diodes, two of said four electric circuits being assigned to said red-luminous light emitting diodes of identical luminous spots, said identical spots being distributed over the grid in checkered fashion (as recited in Claim 41);
- each of the green-luminous light emitting diodes being connected to eight electric circuits, in each case one green-luminous light emitting diode of eight luminous spots being connected to one electric circuit and a further green-luminous light emitting diode of the same luminous spot being connected to another electric circuit (as recited in Claim 42);
- the carrier being composed of ultra pure aluminum (as recited in Claim 43).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use silicon as the material of the

submount (as recited in Claim 25) or ultra pure aluminum as the material of the carrier (as recited in Claim 43) of the patented illumination device of KAMADA et al., since it has been held by the courts that selection of a prior art material on the basis of its suitability for its intended purpose is within the level of ordinary skill. *In re Leshing*, 125 USPQ 416 (CCPA 1960) and Sinclair *& Carroll Co. v. Interchemical Corp.*, 65 USPQ 297 (1945). In this case, using the claimed material specifically would have flown naturally to one of ordinary skill in the art as necessitated by the requirements of a particular application, as evidenced by KAMADA et al., for example, in paragraphs 0047, 0048, 0082 and 0086.

Regarding each luminous spot having two green, one blue and one red light emitting diode (as recited in Claim 32); a plurality of identically colored light emitting diodes (as recited in Claim 37); or two green and two red light emitting diodes (as recited in Claim 42), it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the claimed specific combination of colors, as required by a desired color output range, as evidenced by KAMADA et al. in paragraphs 0005, 0052 and 0154.

Regarding the specific circuit and control arrangement recited in claims 38-42, it would have flown naturally to one of ordinary skill in the art to arrange the LED circuit of KAMADA et al. as necessitated by the

requirements of a particular application, as evidenced by KAMADA et al. in, for example, paragraphs 135 and 146.

In addition, the Appellant is respectfully advised that, while features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. *In re Schreiber*, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997).

Regarding the plurality of luminous spots form a grid of 4x8 luminous spots (as recited in Claim 42), the Appellant is respectfully advised that in considering the disclosure of a reference, it is proper to take into account not only specific teachings of the reference but also the inferences which one skilled in the art would reasonably be expected to draw therefrom." *In re Preda*, 159 USPQ 342 (CCPA 1968). In this case, it would have been obvious to one of ordinary skill in the art to form the illumination device of KAMADA et al. in a 4x8 configuration instead of that disclosed in Figure 6 (4 rows of unspecified length), since the one of ordinary skill would have recognized such arrangement as being merely an example, with selection of a specific configuration over another being an obvious matter of meeting the specific requirements (e.g. desired size of the device) of a given application. In addition, the Examiner takes Official Notice of the instant specification failing to disclose that a 4x8 configuration solves any problem or is for a particular reason.

(10) Response to Argument

A. Regarding the Examiner's rejection of claims 22 and 45 under 35 U.S.C. 102(e) as being anticipated by KAMADA et al. (U.S. Pat. App. Pub. 2002/0006040), the Appellant argues that the cited reference fails to disclose all the features of the claimed invention, specifically a plurality of light emitting diodes and a submount, or a group of light emitting diodes arranged on a submount. See appellant's brief, page 4.

i- In response to Appellant's arguments that KAMADA et al. failed to disclose the claimed light emitting diodes and submount, the Appellant is respectfully advised that while the claims of issued patents are interpreted in light of the specification, prosecution history, prior art and other claims, this is not the mode of claim interpretation to be applied during examination. During examination, the claims must be interpreted as broadly as their terms reasonably allow. *In re American Academy of Science Tech Center*, 70 USPQ2d 1827 (Fed. Cir. May 13, 2004). The Appellant is further advised that, in considering the disclosure of a reference, it is proper to take into account not only specific teachings of the reference but also the inferences which one skilled in the art would reasonably be expected to draw therefrom." *In re Preda*, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968).

In this case, as previously detailed in section 9(A)(i), KAMADA et al. discloses an illumination device including a plurality of luminous spots 1

formed by light emitting diodes 1a-1d, the luminous spots being arranged on a thermally conductive carrier 10 having a flat mounting surface, the light emitting diodes positioned on a submount 12 (also shown as element 38 in Figure 8, element 24 in Figure 19, element 16 in Figure 25, and element 19a in Figure 31; in Figure 28 element 10 takes the role of submount and element 21 is the carrier). While the Appellant is correct in that KAMADA et al. uses reference number 11 in the detailed description to refer to a "dent" (see Appellant's brief, page 5), some of the numerals 11 in Figure 1 point to the exposed portion of the submount 12.

In addition, it is noted that the argued limitations (i.e. the plurality of light emitting diodes and a submount, or the group of light emitting diodes arranged being on a submount) were originally rejected as anticipated by KAMADA et al. in the first Office Action on the merits (mailed December 13, 2006), however, the Appellant failed to traverse such rejection (as required by 37 C.F.R. 1.111(b)) until after a final Office Action was issued (mailed September 21, 2007).

B. Regarding the Examiner's rejection of claims 23, 24, 26-31 and 33-36 under 35 U.S.C. 102(e) as being anticipated by KAMADA et al. (U.S. Pat. App. Pub. 2002/0006040), the Appellant present no arguments, except stating that such claims depend directly or indirectly from independent claim 1 and would be allowable when/if the independent claim is allowed.

C. Regarding the Examiner's rejection of claims 25, 32 and 37-44 under 35 U.S.C. 103(a) as being unpatentable over KAMADA et al. (U.S. Pat. App. Pub. 2002/0006040), the Appellant present no arguments, except stating that such claims depend directly or indirectly from independent claim 1 and would be allowable when/if the independent claim is allowed.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Ismael Negron/
Primary Examiner, Art Unit 2885

Conferees:

Jong-Suk (James) Lee /J. L./
Supervisory Patent Examiner, Art Unit 2885

Darren Schuberg /D. S./
TQAS TC 2800